

REMARKS

The following is responsive to the Patent Office Action mailed March 8, 2005. In response to this Action, claims 1, 9 and 21 have been amended, claims 19 and 20 have been made dependent upon claim 21 and new claims 22 and 23 have been added. The Applicant respectfully submits that claims 1 to 3, 8 to 17 and 19 to 23 patentably distinguish over the prior art for the reasons set forth hereinbelow. Claims 4, 5, 7 and 18 are withdrawn subject to the Restriction Requirement. However, the Applicant further submits that claims 4, 5 and 7 should be reconsidered upon the allowance of claim 1.

First, in response to the rejection of claims 1 to 3, 6, 8 to 17 and 21 based upon the judicially created doctrine of obviousness-type double patenting, there is attached a Terminal Disclaimer of the term of the patent which may be granted from this application which extends beyond the term of U.S. Patent No. 6,851,904. The Applicant respectfully submits that the Terminal Disclaimer overcomes this rejection.

Second, the Applicant respectfully traverses the rejections of claims 1 to 3, 6, 8 to 10, 12, 13 and 17 based upon 35 U.S.C. § 112. In response to the rejection of claim 1, the “outer side wall” (38 in Figure 3) of the annular groove (32) is inclined toward the pilot portion (22) “forming a restricted opening to said annular groove adjacent said annular end face of said flange portion” to clarify this limitation of the claim. In response to the rejection of claims 2, 3, 12 and 13, wherein the Examiner objected to the term “adjacent” as “unclear,” the Applicant relies upon the definition of the term “adjacent.” As set forth, for example, in *Webster’s Ninth New Collegiate Dictionary* of Merriam-Webster Inc. (1984), the term “adjacent” means “to lie near” or “not distant.” Thus, as accurately set forth in these claims, the radial ribs extend to “adjacent” the side wall of the annular groove, but spaced from the side wall. Finally, in response to the rejection of claims 9 and 17, the Applicant agrees that the bottom wall (36) as shown in Figure 2 is not fully “trapezoidal” because the outer wall

(38) is arcuate or circular. Thus, these claims have been amended to recite “generally trapezoidal” which the Applicant respectfully submits accurately describes the bottom wall (36) shown in Figures 1 and 2.

Finally, the Applicant respectfully traverses the Examiner’s rejections under 35 U.S.C. § 103(a) for the reasons set forth below. As set forth in *In Re Sang Su Le*, 277 F.3d 1338 “When patentability turns on the question of obviousness, the search for an analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation or suggestion to select and combine the references cited on the evidence of obviousness.” (Citations omitted). “The factual inquiry whether to combine references must be thorough and searching” and “must be based upon objective evidence of record.” The Applicant respectfully submits that the “obviousness” rejection by the Examiner is improper because there is *no “teaching, motivation or suggestion to select and combine the references”* relied upon by the Examiner and, in fact, the proposed combination of references is contrary to the teaching of the references themselves as set forth below. Further, it must be recognized that this is a “crowded art” and thus even relatively minor or small differences between the claimed invention and the prior art are patentable.

Claims 1 to 3, 6, 8 to 10 and 21 were rejected by the Examiner as unpatentable over U.S. Patent No. 6,276,040 of *Müller* in view of the teaching of U.S. Patent No. 3,253,631 of *Reusser*. However, claim 1 has now been amended to recite that the “top face” of the radial ribs is “planar” and that the opposed planar side faces are “parallel” and extend “generally perpendicular to said bottom wall.” As recognized by the Examiner in his rejection of claims 11 to 13 and 17 under 35 U.S.C. § 103(a) as unpatentable over the *Reusser* patent in view of the teaching of U.S. Patent No. 6,220,804 of *Palmer*, the radial ribs of *Reusser* do not include parallel side walls which extend perpendicular to the bottom wall and thus the Examiner relies upon the *Palmer* patent. Thus, it will be assumed based upon the initial

rejection of claims 1 and 11 that the Examiner would propose to combine the *Palmer* patent with the patents of *Müller* and *Reusser* in rejecting claims 1 and 11 as amended. The following is responsive to the rejection of claim 1 and claim 11 further assuming that the Examiner will rely upon the *Palmer* patent.

The *Müller* patent discloses a self-attaching nut of the general type disclosed and claimed in this application including a central pilot portion (132) surrounded by an annular flange portion (142) and an annular groove (118) in the planar end face (142) of the annular flange. An annular groove (118) is formed in the flange portion which may be characterized as a “re-entrant groove” in Figure 2. However, the retention of the pierce nut disclosed in the figures relies upon a die member as shown in Figures 5 and 6 having radial teeth (256) or splines which deform the pilot portion of the nut as shown in Figures 1, 3 and 8. The splines are also shown at 56 in Figure 1. The embodiment of the pierce nut (10) shown in Figure 1 includes “a nose or web which is preferably arranged in the transition between the base surface 30 of the ring recess 18 and the outer side wall.” (Col. 8, lines 29 to 42). The specification states that “Several spaced noses or webs may be uniformly arranged around the longitudinal axis 22 of the hollow element 10”; however, the specification further states that the “noses or webs *preferably have exposed rounded edges in order to avoid cracks in the sheet material.*” (Col. 8, lines 41 and 42, emphasis added). Thus, the *Müller* patent discloses only webs or noses at the transition between the base surface or bottom wall of the annular groove and the outer side wall and specifically teaches that the “noses or webs preferably have exposed rounded edges in order to avoid cracks in the sheet material” during installation. That is, the noses or webs do not extend “radially beyond a midportion” of the bottom wall or ribs “including a planar top face” having “opposed planar parallel side faces extending generally perpendicular to (the) bottom wall” as required by claim 1 as amended. Further, the *Müller* patent does not disclose “radial ribs including a planar top face” and

“opposed planar side faces extending substantially perpendicular to (the) bottom wall” as required by claim 11. Further, the *Müller* patent does not disclose radial ribs integral with one of the inner and outer side walls of the annular groove “above a midportion” of the side wall having a “planar top face” or “opposed parallel triangular planar side faces extending generally perpendicular to (the) bottom wall” as required by claim 21 as amended.

The *Reusser* patent also discloses a pierce nut (1) having a projecting central pilot portion (7), an annular flange (9) surrounding the pilot portion and an annular groove (10) in the annular surface (5) of the flange portion. The bottom wall of the annular groove includes a plurality of circumferentially spaced radial ribs (13) each including “a flat downwardly projecting top surface (14), and a *pair of diverging side walls 15* directed outwardly to the base of the recess 10.” (Col. 3, lines 63 to 70). The specification further states that “the raised rim 21 causes the sheet metal to flow not only into the locking area 16 between the locking ribs 13, but also to flow laterally into the undercut portion 12.” Thus, it is apparent that the purpose of the “diverging side walls 15” is to direct panel metal between the ribs. Thus, the Applicant respectfully submits that it would not be obvious to combine the teaching of the *Reusser* and *Müller* patents because the *Müller* patent specifically teaches that the noses or webs “preferably have exposed rounded edges in order to avoid cracks” and the *Reusser* patent specifically discloses that the ribs should have an inclined projecting top surface and diverging side walls to cause the panel metal to flow between the ribs. Thus, the Applicant respectfully submits that not only would it be contrary to the teaching of the *Müller* patent to combine the teaching of the *Reusser* patent, but also there is no “showing of a suggestion, teaching or motivation to combine the prior art references” as required by *In Re Sang Su Le*, supra.

Finally, the *Palmer* patent discloses several embodiments of a pierce nut having a central pilot portion (14), a flange portion (18) surrounding the pilot portion and an annular

groove (22) surrounding the pilot portion having a bottom wall (26) inclined inwardly from the flange portion to the pilot portion, wherein the bottom wall of the groove includes a plurality of locking members or lugs (42) which extend parallel to the bottom wall including abutments (43) which are “preferably perpendicular to the rotational motion of the nut,” as noted by the Examiner at column 6, lines 29 and 30. However, the *Palmer* patent specifically teaches that the locking members or lugs (42) are integral with *both* the inner and outer side walls of the annular groove and that the outer side wall (30) of the groove is perpendicular to the annular face (24). For example, the specification of the *Palmer* patent further states that the protuberances extend “above the groove bottom wall 26 and radially extend across the groove 22 from the groove inner wall 28 to the groove outer wall 30.” (Col. 6, lines 31 to 34). Thus, the *Palmer* patent *does not teach* a plurality of spaced radial ribs which extend “radially beyond a midportion of (the) bottom wall of said annular groove *spaced from said inner side wall*” or an outer wall “inclined toward said pilot portion” as required by claim 1. Further, the *Palmer* patent does not teach a plurality of circumferentially spaced radial ribs which extend “radially beyond a midportion of said bottom wall” but “spaced from the inner side wall” having a “planar top face inclined radially inwardly from said outer wall” as required by claim 11. Finally, the *Palmer* patent does not teach an annular groove having an “outer side wall” which is “inclined toward said pilot portion” forming a restricted opening to the annular groove, wherein the bottom wall includes a plurality of circumferentially spaced radial ribs having planar top faces “inclined” from one of the inner or outer side walls of the annular groove extending beyond a midportion of the bottom wall and “parallel triangular planar side faces” as required by claim 21 as amended.

Further, the Applicant respectfully submits that it would not be obvious to combine the teaching of the *Palmer* patent with either the *Müller* or *Reusser* patents because (1) the teaching of the *Palmer* patent is *specifically contrary* to the teaching of the *Müller* and

Reusser patents as discussed above and (2) there is no “showing of a suggestion, teaching or motivation to combine the prior art references” as required by *In Re Sang Su Le*. As set forth above, the *Müller* patent teaches that the noses or webs should have exposed rounded edges to avoid cracks in the sheet material and the *Reusser* teaches that the inclined planer surfaces should include diverging side walls. Thus, it would be specifically contrary to the teaching of either the *Müller* or *Reusser* patents to modify the teaching of these references to include parallel planer side faces which extend perpendicular to the bottom wall as taught by the *Palmer* patent. The Applicant therefore respectfully requests reconsideration of claims 1, 11 and 21 and allowance of these claims.

The dependent claims also patentably distinguish over the prior art. For example, claim 2, which is dependent upon claim 1, recites that the radial ribs are inclined from the outer side wall toward the bottom wall and the radial ribs extend “radially to adjacent said inner side wall of said groove.” This is contrary to the teaching of all of the references cited by the Examiner. Similarly, claim 12, which is dependent upon claim 11, recites that the “radial ribs extend radially to adjacent said inner side wall of said annular groove.” Similarly, claim 3, which is dependent upon claim 2, recites that the radial ribs “extend to adjacent a junction of said inner side wall and said bottom wall of said annular groove” which is specifically contrary to the teaching of the references cited. Further, new claim 22, which is dependent upon claim 21, recites that the “radial ribs extend to adjacent but spaced from a side wall of said annular groove.” Again, this is contrary to the teaching of all of the references cited.

Claim 14, which is dependent upon claim 11, recites that the radial ribs “are integrally joined to said outer side wall of said annular groove *at our above a midportion* between said bottom wall and said annular groove and said end face of said flange portion.” This is contrary to the teaching of the prior art, particularly the *Müller* patent. Claim 6, which is

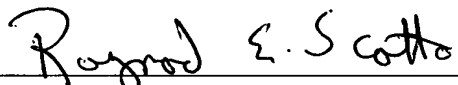
dependent upon claim 1, recites that the bottom wall of the groove “extends radially substantially perpendicular to an axis of said bore.” This is contrary to the teaching of both the *Müller* and *Palmer* patents.

The Applicant respectfully submits that the claims as amended herein patentably distinguish over the prior art cited by the Examiner and respectfully requests reconsideration and allowance of the claims of this application.

Enclosed is our check in the amount of \$350.00 as required for the filing of this Amendment. If there are any additional fees due, the Commissioner is authorized to charge our Deposit Account for those additional fees or credit the account for any overpayments regarding this Amendment.

Respectfully submitted,

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CERTIFICATE OF EXPRESS MAILING

I hereby certify that the enclosed **Amendment** and fee are being deposited with the United States Postal Service as Express Mail, postage prepaid, in an envelope as "Express Mail Post Office to Addressee," Mailing Label No. **EV612876082US** and addressed to Mail Stop Fee Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on **May 23, 2005**.



Tracy L. Smith

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